Journal of Forensic and Legal Medicine 16 (2009) 76–82

Contents lists available at ScienceDirect

Journal of Forensic and Legal Medicine

journal homepage: www.elsevier.com/jflm

Original Communication

A five-year survey for dental malpractice claims in Tehran, Iran

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ARTICLE INFO

Article history:
Received 1 April 2008
Received in revised form 16 July 2008
Accepted 16 August 2008
Available online 21 October 2008

Keywords:
Malpractice
Dental
Dentistry
Doctor's responsibilities
Patient complaints

ABSTRACT

Objectives: Dentists, like other doctors, can face punitive and legal consequences if patients are not satisfied with the dental treatment. The purpose of this study is to provide a database for dental malpractice claims in Tehran.
Methods: We conducted a retrospective study of dental malpractice claims In Tehran, between 2002 and 2006, based on the decisions of expert committees in medical malpractice cases by Tehran's Legal Medicine Organization and Islamic Republic of Iran's Medical Council.
Results: During these 5 years, 412 decisions related to dental malpractice were made. The majority of complaints were in fixed prosthodontics and oral surgery and also most of them concerned the private sector. Most of the cases were against general dentists. In the 56.7% of clinical cases and 40% of non-clinical cases of malpractice claims, dentists were found faulty.
Conclusions: Like all other medical staff, dentists are under the obligation to comply with the legal rules in the country they practice. They also have to consider ethical principles as well as the acceptable standards and protocols of diagnosis and treatment. These data can alert them to the need for greater care and ethical professionalism when treating their patients.

1. Introduction

The idea of taking physicians to court for their medical misjudgments is relatively a new idea. The laws of ancient Greece and Rome, and those of Europe through the Middle Ages gave doctors immunity from punishment for their professional actions. In fourteenth century England, at a time that the Great Plague had eliminated a third of the population, people began to see their doctors as less than perfect. In 1375, shortly after the first plague had subsided, an obscure malpractice case was heard before the court of John Cavendish of the Court of King's Bench. A highly regarded surgeon by the name of John Swanlond had treated the crushed and mangled hand of one Agnes of Stratton. The condition of her hand had not improved after a few weeks, and the patient consulted a second surgeon, who informed her that Dr. Swanlond's treatment was deficient. When her hand became severely deformed, she sued Swanlond. Although the suit was voided because of a technical error made by the patient's lawyer, the judge made the following note in his written opinion: "If a smith undertakes to cure my horse, and the horse is harmed by his negligence or failure to cure in a reasonable time, it is just that he should be liable." This case set the precedent upon which has rested all subsequent Western malpractice litigation.[1]

Patients are sometimes dissatisfied with the treatment they received from their dentists. In most cases, such dissatisfaction can be resolved between the patient and the dentist but sometimes the patient turns to a legally competent body which can judge whether the complaint is reasonable and, if necessary, takes subsequent action against the dentist.

The legal definition of dental malpractice varies between different countries. However, a general description of dental malpractice that is consistent among countries would be described as medical malpractice for an injury due to negligent dental work, failure to diagnose or treat possible precarious oral conditions, delayed diagnosis or treatment of oral disease or other precarious oral conditions, as well as any malevolent or otherwise intentional misconduct on the dental professional's part.

The patient and/or the relatives of the patient can sue the medical staff when they do not receive sufficient medical treatment or when they think they are harmed as a result of a faulty treatment intervention. The increased number of compensated cases brought against doctors in recent years has become a major concern for the medical industry not only in Iran but also throughout the world.[2–6]

Complaints from patients about dental treatment are internationally on the increase, especially in the USA.[7–9] Rudov and his colleagues found that dentists accounted for 6.9% of all medical

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doi:10.1016/j.jflm.2008.08.016

malpractice claims closed in 1970.[10] In another study, Peter Milgrom et al. found the incidence rate of dentists with at least one claim filed between 1988 and 1992 to be 73 per 1000 dentists. The number of dentists reporting at least one filed claim ranged from 11 per 1000 dentists in 1988 to 27 per 1000 dentists in 1992.[11] In a more recent study, the American Dental Association found that the number of dentists reporting at least one filed claim ranged from 27 per 1000 dentists in 1999 to 40 per 1000 dentists in 2003.[12]

In UK, the situation is not different. The number of dentists reporting complaints has shown a gradual rise from 3.5% in 1989 to 10.7% in 1992. The majority of complaints (56.9%) came from the specialty of restorative dentistry.[13]

The most common dental specialty that patients complain about differs from one country to another. In USA, oral surgery claims grew from 18.8% in 1988 to 31.8% in 1991.[11] In Washington State, parasthesia following surgical extraction of mandibular third molars accounted for nearly 25% of the claims in 1984.[14]

On the other hand, prosthodontics was most frequently involved in malpractice cases in Sweden. In a study of all Swedish disciplinary cases on dental malpractice between 1947 and 1983, 54.5% concerned mainly prosthodontic treatment.[15,16]

In Turkey, M. Hakan Ozdemir et al. found that dentists accounted for 0.9% of all medical malpractice claims closed in 1991–2000.[2]

In Riyadh (Saudi Arabia), Wafa Al Ammar and his colleagues found thirty-two claims against dentists in 1997, twenty of which were clinical and 12 were non-clinical cases. The majority of clinical complaints, 18.8%, were in the specialty of oral surgery with 15.6% in fixed prosthodontics specialty.[7]

In Iran, dentists, like all other health care professionals, are responsible for the damage they cause during their medical practice. If a doctor's action risks a patient's life when the patient is under his/her care, the doctor will legally be held liable. In our country, malpractice cases are not covered within the framework of a specific legislation. These cases are examined under the general rules of law.[17,18]

We describe Iranian professional liability insurance and the Iranian systems for resolving legal disputes related to medical injury. We also examine the current situation of dental malpractice claims and suits in comparable forms with international data.

Iranian physicians are not required by law to carry professional liability insurance, and for those who desire coverage, choices are limited. Some commercial carriers sell a professional liability product for individual physicians. In the year 2007, annual premium for professional liability insurance for Iranian dentists was $200 (IRR1,800, 000). Data is not centrally collected and made available for analysis regarding professional liability practices of and claims against Iran's physicians. Unemployed and employed physicians can purchase the commercial carriers' product. This can be obtained individually or through the academic societies. The carriers describe their policies as manifestation-based, covering events that are discovered and reported to them during the period in which the policy is in place.

There are 3 types of liability for medical injury: civil liability, criminal conviction, and sanctions applied by the Islamic Republic of Iran's Medical Council (IRIMC), which supervise physicians, nurses, and other medical professionals.

Civil liability is the remedy most commonly pursued in instances of alleged medical malpractice. In Iran, theories of civil liability for medical injuries are based in tort and cases may include multiple allegations. Tort law allows a patient to sue a physician for negligence and/or to sue the hospital for allowing negligent behavior by its employee, over whom the hospital had control, but in contrast with the rest of the world there is no the statute of limitations in tort in our country.[18,19]

A criminal action can be instituted for the same injury; however, criminal actions are usually reserved for serious cases involving obvious errors with mortality and severe morbidity; thus the numbers are consequently low.

In clinical cases, to resolve a dispute with a physician, patients have to file a lawsuit. The judge of judicial office, after a primary evaluation, will refer his/her complaint to the LMO's expert committees. The decisions of the LMO expert committees are based on the medical and legal documents presented in the relevant file. Legal authorities do not have to comply with decisions of the LMO's expert committees, although they usually agree with those decisions. If a physician did not meet the standard criteria of care, he/she must compensate the medical injury. Momentary penalty, that also called Dieh or blood money, is the most common sanction given in clinical cases. However, in the cases of mortality or permanent impairment, doctors may condemn to imprison, up to 3 years.

The non-clinical claims resolution process is provided by the IRIMC. Patients may initiate the IRIMC process directly; they must file a claim in IRIMC. According to regulations of IRIMC, if a medical error occurred, doctors may condemn disciplinary punishment such as: verbal warning, written warning, suspension or cancellation of a license.

Choosing the expert person and/or committee is crucial in the investigation of malpractice cases. The expert witness can be a doctor, health institute and/or a committee. The official body whose expert opinion needs to be taken in claims related to criminal law suits in Iran is the Legal Medicine Organization (LMO), which is under the control of the Supreme Court. The LMO was established in 1993 and consists of several professional expert committees in different professional groups of medicine. Forensic practitioner members of LMO who are experts in their fields work on a permanent basis and other specialist members work in the Universities of Medical Sciences.

There has not been any published report on patients' complaints about dentists in Iran; although it has been acknowledged that some complaints and claims for negligence do exist. This paper describes the incidence of dental malpractice claims in Tehran over a five-year period.

2. Materials and methods

The purpose of this study is to provide a database for dental malpractice claims in Tehran. Cases which were referred to the legal system have been evaluated in a retrospective study. All decisions on alleged dental malpractices registered by the LMO and IRIMC medical malpractice expert committees in Tehran city were studied from year 2002 to 2006. A questionnaire consisting of 20 questions written in Persian was designed to determine the incidence of patients' complaints, details of the complaints, diagnosis, medical application, the reasons for faults, and the area of dentistry involved as well as the reasons behind the complaints and the disciplinary committee's decisions. The remaining questions were constructed to collect data on the age, sex and nationality of the patient and the defendant (dentist), as well as the type of work of the defendant (general dentist, assistant, specialist, and experimental technician). The authors did not clinically examine any of the patients who made a complaint against the dentists. One hundred fifty five clinical cases and 54 non-clinical cases are presented under which the dentists were found faulty in accordance with the data included in the reports of the decisions.

3. Results

Between 2002 and 2006, the Tehran's LMO expert committees examined 2860 cases and out of 2860 decisions only 295 (10.3%)

of them were related to dentistry. Eighteen cases of dentistry claims did not follow their claims, thus we excluded them in this study. In the same period, 135 non-clinical cases were filed as dental malpractice claim in the IRIMC of Tehran. Therefore, totally 412 malpractice cases were identified in the Tehran region. Clinical malpractice claims in relation to all complaints during these years accounted for 67.2% ($n = 277$) as shown in Table 1.

Rate of both clinical and non-clinical cases was increasing from 2002 to 2006 (48–75, 19–34 respectively).

The age of the patients was known in 412 cases. The mean age was 28.2 ± 10.4 years, with a range of 18–64 years. The patient's sex was also stated in 412 cases. Two hundred twenty three of the patients (54.1%) were men and 189 (45.9%) women. Four hundred and six of the patients (98.5%) were Iranian while the remainders were non-Iranian. Demographic characteristics of plaintiffs are showed in Table 2.

In 410 cases, the age of the dentists was known. The mean age was 36.5 years (range 28–58 years). All cases were against Iranian dentists. Three hundred and fourteen dentists (76.2%) were men and 98 (23.8%) women.

The majority of complaints (86.9%) concerned the private sector, with 69.2% of the cases against private solo-practice clinics, 14.8% against polyclinics, and 2.9% against medical centers. The remaining of complaints (13.1%) concerned the governmental sector. Most of the cases (87.1%) were against general dentists, 8.5% against specialists, and another 4.4% against experimental technicians. In 69.9% of the cases, the dentist was the owner of the practice while in the remaining cases (30.1%), the dentist was an employee.

In this study, only in 18 of 277 (6.5%) clinical cases and 13 of 135 (9.6%) non-clinical cases, a written informed consent and/or consultation was obtained prior to the treatment of the patient. In 157 (56.7%) clinical cases and 54 (40.0%) non-clinical cases the dentists were found guilty while in other cases being innocent. Type and frequency of decisions taken in dental malpractice cases are showed in Table 3.

Non-clinical cases accounted for 32.8% of the malpractice claims which included advertisement violations, practicing without a license, sexual harassment and swindling (respectively).

The majority of clinical complaints were in fixed prosthodontics ($n = 77$; 27.8%) with oral surgery accounting for 65 complaints (23.5%). There were relatively few complaints in the following clinical disciplines: endodontics ($n = 46$; 16.6%), restorative dentistry ($n = 36$; 13.0%), orthodontics ($n = 29$; 10.5%), dental implants ($n = 17$; 6.1%), and periodontics ($n = 7$; 2.5%) as shown in Table 4.

Table 1
Type of complaints

Type of complaints	*N*	%
Clinical	277	67.2
Non-clinical	135	32.8
Total	412	100

Table 2
Demographic characteristics of patients who recorded a dentistry-related claim in Tehran's LMO[a] or IRIMC[b] from 2002 to 2006 ($n = 412$)

Variable	Male	Female	All	*P*
Mean age (years)	29.1 ± 13.2	27.1 ± 11.8	28.2 ± 10.4	NS
Gender [N (%)]	223 (54.1)	189 (45.9)	412 (100.0)	NS
Nationality [N (%)]				
Iranian	219 (53.1)	187 (45.4)	406 (98.5)	<0.05
Non-Iranian	4 (1.0)	2 (0.5)	6 (1.5)	
Total [N (%)]	223 (54.1)	189 (45.9)	412 (100)	

[a] Tehran's LMO: Legal Medicine Organization of Tehran.
[b] IRIMC: Islamic Republic of Iran's Medical Council.

Table 3
Types and frequency of decisions taken in dental malpractice cases in Tehran (from 2002 to 2006)

Sanction	No. of cases	%
Verbal warning	11	2.7
Written warning	42	10.2
Temporary deprivation from dentistry	1	0.2
Payment	157	38.1
Innocence	201	48.8
Total	412	100

Table 4
Clinical dentistry malpractice claims in Tehran during 2002–2006

Specialties	No. of cases	%
Fixed prosthodontics	77	27.8
Oral surgery	65	23.5
Endodontics	46	16.6
Restorative dentistry	36	13.0
Dental implant	17	6.1
Periodontics	7	2.5
Total	277	100

The major causes of complaints per disciplines were recorded as follows:

Prosthodontics: The failure to meet the standard of care based upon dissatisfaction with the treatment outcome was the most frequent complaint. Bridges, inadequate precaution to prevent injury and equipment failure were the next treatments being most frequently involved in claims, respectively.

Oral surgery: Treatment of wrong tooth, inappropriate procedure, errors resulting in paresthesia, negligence in complications management and errors in placing implants were the treatment outcomes most frequently involved in claims, respectively.

Endodontics: The failure to meet the standard of care, given an adverse treatment outcome such as broken file, inadequate precautions to prevent injury, paresthesia, inappropriate procedure and treatment of wrong tooth were the most frequent errors involved in claims.

Restorative dentistry: Errors in composite/amalgam restorations, inadequate precautions to prevent injury, treatment of the wrong tooth adverse drug reaction and swallowed object were the most frequent errors involved in claims.

Orthodontics: The complaints about treatments below the standard of care and given dissatisfaction with the treatment outcome were the most frequent causes of claims. Inappropriate procedure, misdiagnosis, failure to treat properly, lack of informed consent, inadequate precautions to prevent injury, wrong treatment, root absorption and lack of skills were the frequent errors involved in claims.

Periodontics: Errors in placing implants, inappropriate procedure, and failure to diagnose were the most common errors involved in claims. The second most common errors were lack of informed consent, surgical complications and anesthesia complications.

According to the Tehran's LMO expert committee's decisions, errors in treatment accounted for 48% of the reasons for complaints in the clinical malpractice cases. Other complaints included unethical actions such as unreasonably high treatment costs (5.4%), excessive pain and discomfort (2.2%) and sexual harassment and swindling (1.1%).

In clinical cases which dentists were found guilty ($n = 157$), majority of them ($n = 131$; 83.4%) were general dentists. Treat-

ments involving compensated claims by general dentists are shown in Fig. 1. Treatments of crown and bridge (23.7%), and dentures (19.8%) were the most common states which involving compensation by general dentists.

Adverse outcomes involving compensated claims are shown in Fig. 2. Need for corrective dental treatment (32.1%) was the highest alleged adverse outcome in compensated claims followed by failed root canal and lost tooth or teeth.

The most common allegations involved in paid claims comprised; inappropriate procedure, failure to diagnose and failure to obtain informed consent. Details of allegations involved in paid claims are showed in Table 5.

In the clinical cases, a penalty fee was the unique sanction imposed by the Tehran's LMO expert committee's decisions. The total payments reached to the equivalent of 8 complete Dieh (blood money) of Moslem human, with consideration of the final rate of Dieh, which is IRR2,800,000,000 (about USD350,000), with a mean payment around IRR17,834,400 (USD2230). The most expensive claim was in a case involving a general dentist as a prosthodontist who had to pay IRR105,000,000 (about USD13, 000). The next highest claim also was IRR87,500,000 (more than USD10, 000) in a prosthodontics case (Table 6).

4. Discussion

Like all other specialists, dentists aim to provide a healthier life for their patients. Despite all the efforts, sometimes undesired results may arise. In such cases, dentists face legal action. This study is the first to present information on patients' complaints against dentists practicing in Iran. In the past, the process of patients' complaints was not well organized and the records of the cases were not kept. There were, therefore, no previous data to compare with the findings of this study. However, there is no doubt that litigation in Iran is increasing. The most likely explanation is the increasing number of practicing dentists, which has resulted in an increase in the number of treatments provided. These increased treatments have increased the risk of malpractice especially in complex case situations. Furthermore, the expanding population of patients is becoming more knowledgeable and aware of its rights and is taking action by contacting the court to lodge their complaints.

Claim frequency varies regionally throughout the world. In our study, the average annual rate of dental malpractice claims was about 1.1 per 100, 000 population. Many factors can affect claim frequency in various societies. Doctors, skill and their abilities to dissolve conflicts, the level of use of dentistry services, cost of

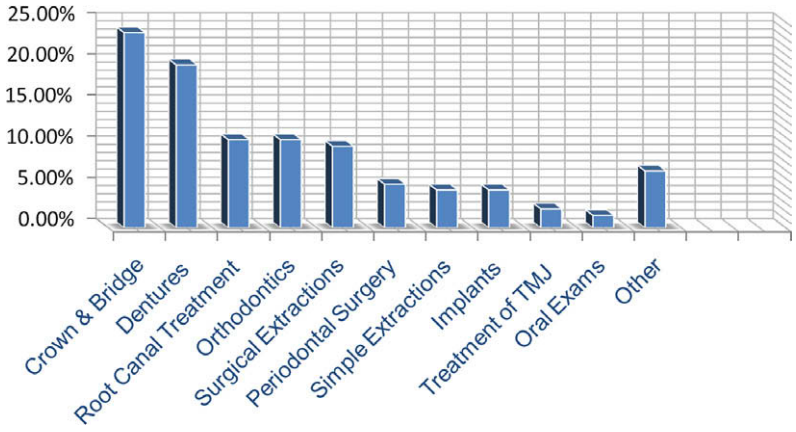

Fig. 1. Treatments involved in paid claims by general practitioners.

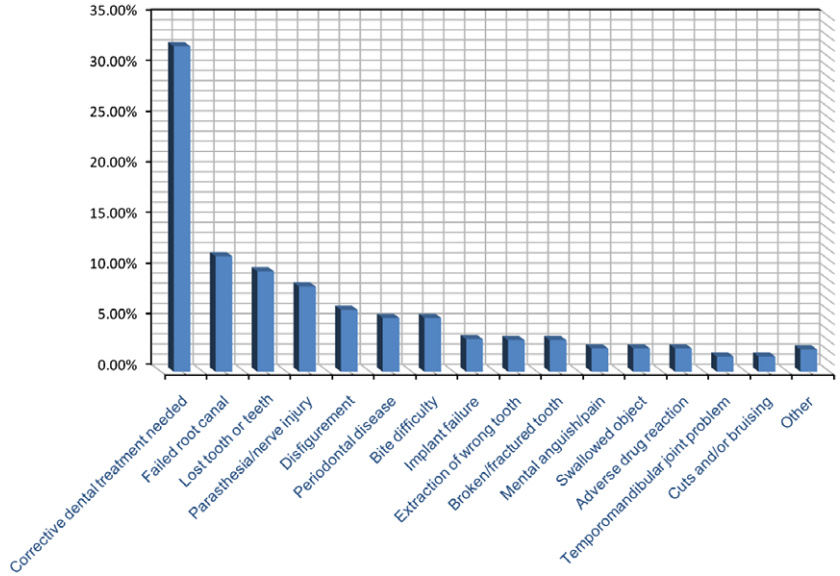

Fig. 2. Adverse outcomes involved in paid claims.

Table 5
Allegations involved in paid claims (n = 157)

Allegations involved in paid claims	No. of cases	%
Inappropriate procedure	20	12.7
Failure to diagnose	18	11.5
Failure to obtain informed consent	18	11.5
Treatment of wrong tooth	9	5.7
Failure to refer	9	5.7
Anesthesia complications	7	4.5
Equipment failure	7	4.5
Failure to appropriately treat medically compromised patients	6	3.8
Alteration of treatment records	6	3.8
Inadequate health history	5	3.2
Poor communications with patient's specialist	5	3.2
No X-ray or incomplete X-ray	5	3.2
Assault/excessive force	5	3.2
Guarantees	3	1.9
Other	34	21.6
Total	157	100

Table 6
Severity of dental malpractice claims according to Tehran's LMO[a] expert committees during 2002–2006 (unitage IRR[b])

Year	Weighted average	Highest	Lowest
2006	IRR19,200,000	IRR105,000,000	IRR1,000,000
2005	IRR18,700,000	IRR875,000,000	IRR1,000,000
2004	IRR18,272,000	IRR875,000,000	IRR1,000,000
2003	IRR17,200,000	IRR750,000,000	IRR1,000,000
2002	IRR15,800,000	IRR500,000,000	IRR750,000

[a] Tehran's LMO = Legal Medicine Organization of Tehran.
[b] IRR = Iranian Rial.

treatment, compensation system and patients, information about malpractice litigation are some of these factors. Thus frequency of claims can be very different in various countries. On the other hand, statistics on dental malpractice claims are scanty, hence pointing out similarities and differences between various countries is difficult. In the USA and many other countries, statistics on dental malpractice claims are available only from the insurance companies that underwrite dental professional liability insurance. But these companies do not publicly disclose the data they collect, most likely for competitive reasons. While the National Practitioners Data Bank (NPDB) does have some information, it is also not publicly available. Moreover, the NPDB's data includes claims for which only payment was made. It does not include information on claims being resolved in the dentist's favor.[12]

Although malpractice claims occur in all areas of dentistry, some areas produce more claims. Between 1988 and 1992, a national study by Milgrom, et al. showed almost a quarter of surveyed dentists reported at least one patient complaint to malpractice insurance carriers. The incidence of claims more than doubled in that time and payment size increased nearly five times between 1988 and 1991. They also showed that 80% of all claims arose in the following areas: oral surgery 23%; fixed prosthodontics 20.5%; endocontic 19.1%; periodontics 13.2%; restorative 3.3%. Fewer, but significant numbers of claims arose in the following areas: treatment of TMJ 2.9%; orthodontics 1%; implants 1.4%; anesthesia 1.9%; removal prosthodontics 2.9%; infection 1%; endoperio or fixed perio 2.4% and other 4.9%. The same study showed that the largest number of claims involved allegations of improper treatment and that claims involving such allegations were more than twice as numerous as claims based on alleged errors in diagnosis. The following is a summary by type of alleged error of all claims analyzed in the five-year study: treatment errors 55.3%; diagnosis errors 17.3%; failure to consult 8.3%; failure to obtain consent 6.2%; failure to follow up 4.8%; therapeutic drugs 3.5% and other errors 4%.[11]

In Iran, like other countries, different clinical dental services are involved in claims. The largest proportion of claims includes fixed prosthodontics and oral surgery. This was also found to be more common in the USA.[11] The findings also corresponded to that of a Swedish study of malpractice where it was found that prosthodontics specialty had the highest rate of malpractice suits.[15] The reason for this is probably that prosthodontics treatment is an expensive and complex one where clinicians have to cooperate with dental technicians. This may introduce various risks for mistakes and high rate of complaints compared to other areas of dentistry. The high expectation by the patient for treatment results and the psychological factors may also explain the increase in formal complaints.

There were fewer claims involving endodontics, restorative dentistry and periodontics. The low level of complaints from these specialties may reflect the patients' lack of knowledge about these areas and may reflect the limited scope of specialty treatment available in these specialties.

The mean age of the patients was 28.2 years. This is expected because most of the population in Iran is below the age of 30.[20] It has been found that women complained less than men (45.9%: 54.1%). This finding had no significant value; but it is probably explained by the fact that Iranian women utilize dental services less than men. Therefore, they face a lesser risk of treatment failure or negligence.

In some cases, more than one complaint was filed. Patients probably tended to include more faults in their reports beside their main complaint, in order to increase their credibility and draw attention to their suffering.

Mistakes made during treatment were reported as the most frequent allegation in dental claims. However, high cost, unethical or inappropriate behavior, and excessive pain and discomfort were additional concerns.

There was no relationship in the prevalence of complaints and the gender of the dentist. Most of the cases were against private practitioners, which might be related to the higher expenses and social-economic level of the patients seeking treatment from this sector. Although compared to developed countries, the dentistry costs are not expensive in Iran, (for example a mean of $70 for root canal with filling of a molar tooth, $15 for an amalgam filling, and $20 for a composite filling), these are much higher than a $4 payment to visit a general medical doctor or a $6 payment to visit a medical specialist. Furthermore, the governmental insurances usually do not cover many of the dental treatments, thus patients have to pay their costs directly, whereas their incomes are not enough. On the other hand, governmental clinics charge low amounts and it is also possible that complaints in governmental clinics were settled internally and did not reach the level of a formal review by the Board.

All of the cases were against Iranian dentists, that is expected since most of the employees in the private and government clinics are Iranian.

The results of treatments involving compensated claims by general dental practitioners might be evaluated by comparing the percentages of claims with the type of treatments typically provided in a general dental practice. For example, while 23.7% of paid claims among general practitioners involved crown and bridge treatments, this may not mean that crowns and bridges are risky procedures from a malpractice perspective. Instead, it may reflect the fact that crowns and bridges are a comparable percentage of the treatments provided in a general dental practice. However, we had no access to the nationwide percentage distributions of the different kinds of dental treatment carried out in Iran, but in regard to oral hygiene, it seems that treatments of crown and bridge are common forms of treatments provided by a general dental

practice in Iran. Further research in this area may lead to better understanding of this situation.

Need for corrective dental treatment was the highest alleged adverse outcome in compensated claims. Our data about type of need for corrective dental treatments were limited. However, the high percentage of claims for which the need for corrective dental treatment is the alleged adverse outcome might explain why the average cost of dental professional liability claims is not very high. Such claims may be among the least serious in the sense that the problem experienced by the patient was either reversible or could be ameliorated. Furthermore, according to Islamic Punishment Law, one of the essential criteria for compensation is Dieh (blood money). A complete Dieh which is nearly equal to $40,000 must be paid, if a male dies due to malpractice or from any type of unintentional accidents such as motor vehicle accidents. The rate of Dieh for females is half of males. A complete Dieh of a human being is equal to compensation of all permanent teeth and subdivides to different teeth. The proportion of anterior teeth is twice higher than posterior teeth.[17]

There were 201 cases that the dentists were found innocent. These were the cases in which the dentist performed diagnosis and treatments in accordance with standard of care and/or obtained informed consent from the patients prior to treatment. This indicates the importance of getting a patient's agreement on the treatment plan before delivering the treatment and more attention to standard of care. In Iran, as well as many other countries, the informed consent of the patient before the treatment has recently gained a great importance in terms of patient rights.[17,18] It is inevitable that if a dentist carries out dental treatment without the consent of the patient, he/she will face responsibilities.[6,17,18] Therefore dentists have to obtain informed consent and perform their treatments with an acceptable standard of care. There is an unwritten Law in which verbal consent is permitted for usual treatment in Iran, although in complicated and surgical treatments doctors have to obtain a written informed consent.[18]

A dentist's duty in providing informed consent to the patient may vary between countries. However, in general, if potential serious injury can occur, such as complications from periodontal surgery, informed consent should be obtained. A comprehensive dental lecture course is not required, but the dentist must inform the patient of: (1) the material risks compared with benefits of the proposed treatment, (2) the consequences of declining treatment, and (3) any other reasonable treatment options.[21] Failure to obtain adequate informed consent renders the dentist liable if a reasonably prudent patient would have declined treatment if the patient had been informed of the risks. Oral informed consent information may be supplemented with written consent forms. Written informed consent forms are desirable but not legally required.[18,21] Nevertheless, informed consent forms provide objective concrete evidence that the patient was provided with legally mandated informed consent. Informed consent is a non-delegable duty that the dentist owes to the patient. Auxiliary staff may supplement the dentist's explanation to the patient. However, they may not solely provide informed consent since they do not possess a dental license nor are they trained to answer all patient questions, particularly regarding the incidence or severity of risks associated with treatment.[21]

Payment (fine) was the singular sanction given in clinical cases. It is anticipated that these penalties will increase as more cases occur. Some dentists may be surprised to find that the average cost of dental malpractice claims is so low in Iran compared to the developed countries; it is commonly recommended that dentists purchase policies providing at least $1 million of coverage for a single claim.[12] However, it should be kept in mind that the computation of compensation is in accordance with rate of Dieh in Iran. According to Islamic Punishment Law, the rate of Dieh is announced by Supreme Court every year, which its final rate is IRR350 million for this year (2007) and is equivalent to about USD40,000.[17] In the other words, in our country, a full compensation rate for complete permanent teeth is about USD40,000. Yet it is especially important that the dental profession minimizes malpractice claims and develops legally defensive measures to prevent their occurrence.

The incidence of dental malpractice claims seems to be increasing in Iran. A reduction in the quality of available dental care should be prevented. Knowledge of this problem as presented in this paper could possibly have a positive effect upon the quality of dental care provided by some dentists. This will alert them to the need for greater care and ethical professionalism when treating their patients.

We believe that information on trends in dental malpractice claims has a utility beyond that of being a point for comparison of professions or as a possible indicator of future global trends. Malpractice claim statistics can also indicate where risk management educational efforts can be most effectively directed to improve the quality of care. A collateral benefit would be that as the quality of care is improved. Considering the current environment of health system changes, careful attention should be paid to malpractice liability, insurance issues and legal developments within dental services in Iran. Preventive efforts should be stressed.

There is a tendency to prevention of complaints built in the educational system in Iran. Ethical and legal issues are theoretical parts of the general and professional dentistry curriculum. Our students must confront with specific ethical questions and dilemmas for learning how to resolve ethical and legal problems.

This was a retrospective study and its obvious limitation is lack of some data. A prospective nationwide study on a representative sample including both clinical and non-clinical claims is needed to provide more information in this field.

Conflict of interest statement

All authors state that there was no conflict of interest for this survey. There were no funding sources for this research.

Funding

None declared.

Ethical approval

None declared.

Acknowledgements

We thank the Legal Medicine Organization's chief, the IRIMC's chief and their employees who assisted with this survey and finally, Mr Saman Sheikh Azadi the editor of this survey.

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